

DRAFT (DO NOT ENTER)**PROPOSED AMENDMENTS IN U.S. SERIAL NO. 09/574,735 (Our Docket: 1187-2 CIP)****TO: PENDING CLAIMS 2, 5, 7-25, 27-31 and 36-57**

2. (Twice Amended) A method for [controlling or altering growth characteristics] decreasing cyclin-dependent kinase activity in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a regulatory sequence which controls expression of the cyclin-dependent kinase inhibitor;

(ii) expressing said nucleic acid molecule; and

(iii) regenerating a plant therefrom, which plant has [altered growth characteristics] decreased cyclin dependent kinase activity.

5. (Twice Amended) A method for increasing the level of cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, in a plant cell relative to corresponding cells of a wild type plant, said method comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor under the control of a promoter which functions in plants; and

(ii) expressing said nucleic acid molecule in said plant cell, thereby increasing the level of cyclin-dependent kinase inhibitor in said plant cell.

7. (Amended) A method for [modifying] increasing plant cell size, said method comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of promoter which functions in plants; and

(ii) expressing said nucleic acid molecule in said plant cell, thereby [modifying] increasing plant cell size.

8. The method of claim 7 wherein the plant cells are cells in the floral petal.

9. The method of claim 7 wherein the plant cells are cells in the leaf.

10. The method of claim 7 wherein the plant cells are cells in the stem.

11. (Twice Amended) A method for [modifying] decreasing cell number in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in said plant cell; and

(iii) regenerating a plant from said plant cell, wherein said plant has [modified] decreased cell number.

12. (Cancel) The method according to claim 7, 8, 9 or 10 wherein plant cell size is increased.

13. (Cancel) The method according to claim 11 wherein the cell number is decreased.

14. (Amended) A method of [altering] increasing leaf serration [shape] in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in said plant cell; and

(iii) regenerating a plant from said plant cell, said plant having [altered] increased leaf serration [shape].

15. (Cancel) A method of altering leaf size in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor which interacts with CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in said plant cell; and

(iii) regenerating a plant from said plant cell, wherein said plant has altered leaf size.

16. (Cancel) The method of claim 14 wherein the regenerated plant has leaves which are more highly serrated compared to wild type plants.

17. (Twice Amended) A method of increasing stomata size of a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants; and

(ii) expressing said nucleic acid molecule in said plant cell; and

(iii) regenerating a plant from said plant cell, said plant having increased stomata size relative to corresponding wild type plants.

18. (Cancel) A method of increasing gas exchange and photosynthesis in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which interacts with CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in said plant cell; and

(iii) regenerating a plant from said plant cell, said plant having increased gas exchange and photosynthesis relative to corresponding wild type plants.

19. (Cancel) A method of altering tissue or organ shape in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which interacts with CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in said plant cell; and

(iii) regenerating a plant from said plant cell, wherein said plant has flowers with altered petal shape.

20. (Cancel) The method of claim 19 wherein the tissue or organ shape is floral petal shape.

21. (Twice Amended) A method of [altering tissue or organ] reducing petal size in a plant, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in the plant cell; and

(iii) regenerating a plant from said plant cell, wherein said plant has flowers with [altered] reduced petal size.

22. (Cancel) The method of claim 21 wherein the tissue or organ size is floral petal size.

23. (Cancel) The method of claim 21 wherein the petal size is reduced compared to wild type plants.

24. The method of claim 19 wherein the promoter which functions in plants is a petal-specific promoter.

25. (Twice Amended) A method of [altering] reducing leaf venation [pattern] in a plant [leaf], comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in the plant cell; and

(iii) regenerating a plant from said plant cell, wherein said plant has leaves with reduced leaf [an altered] venation [pattern].

27. (Twice Amended) A method of [promoting the transition from the mitotic cycle to G1 arrest] decreasing endoreduplication and ploidy level in a plant cell, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants; and

(ii) expressing said nucleic acid molecule in the plant cell.

28. (Cancel) The method of claim 27 wherein said facilitating the transition from the mitotic cycle to G1 arrest in a plant cell results in a decrease in endoreduplication in the plant cell.

29. (Cancel) The method of claim 27 wherein said facilitating the transition from the mitotic cycle to G1 arrest in a plant cell results in a decrease in ploidy level in the plant cell.

30. (Twice Amended) A method of [altering] reducing plant seed size, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in the plant cell; and

(iii) regenerating a plant from said plant cell, wherein said plant has decreased seed size relative to corresponding wild type plants.

31. (Cancel) A method of altering plant seed shape, comprising the steps of:

(i) introducing into a plant cell a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor (CKI) which interacts with CDC2a, under the control of a promoter which functions in plants;

(ii) expressing said nucleic acid molecule in the plant cell; and

(iii) regenerating a plant from said plant cell, said plant having decreased seed shape relative to corresponding wild type plants.

36. (Twice Amended) A transgenic plant, a variety [derived thereof] obtained therefrom with essentially the same characteristics, a plant part, or plant cell which comprises a nucleotide sequence encoding a cyclin-dependent kinase inhibitor (CKI) which [interacts with] binds CDC2a, under the control of a promoter which functions in plants wherein said nucleotide sequence encoding a cyclin-dependent kinase inhibitor is heterologous to the genome of the transgenic plant, or is homologous but additional to the genome of the transgenic plant or has been introduced into the transgenic plant, plant part or plant cell by recombinant DNA means.

37. (Amended) The transgenic plant of claim 36 having [altered growth characteristics] decreased cyclin-dependent kinase activity.

38. (Amended) The transgenic plant of claim 36 having [altered leaf shape] an increased level of CKI.

39. The transgenic plant of claim 36 having altered leaf size.
40. The transgenic plant of claim 36 having leaves which are more highly serrated compared to wild type plants.
41. The transgenic plant of claim 36 having leaves which are more deeply lobed than wild type plants.
42. (Cancel) The transgenic plant of claim 36 having flowers with altered petal shapes.
43. (Amended) The transgenic plant of claim 36 having flowers with [altered] reduced petal size.
44. (Amended) The transgenic plant of claim 36 having [an altered venation pattern] reduced leaf venation.
45. (Amended) The transgenic plant of claim 36 having cells with [altered] decreased ploidy levels.
46. (Cancel) The transgenic plant of claim 37, wherein the cells have a decreased ploidy level relative to corresponding wild type plants.
47. (Amended) The transgenic plant of claim 36 having [altered] reduced seed size.
48. (Twice Amended) The transgenic plant of claim 36, wherein the total cell number of the plant is decreased relative to corresponding wild type plants.
49. (Twice Amended) The transgenic plant of claim 36, [comprising] wherein at least one of petals, leaves or stems comprise cells of increased size relative to corresponding wild type plants.
50. (Twice Amended) The transgenic plant of claim 36, comprising leaves with increased stomata size relative to corresponding wild type plants.
51. (Cancel) The transgenic plant of claim 36 having increased photosynthetic capacity relative to corresponding wild type plants.

52. (Twice Amended) The method of claims 2, 5, 7, 11, 14, 15, 17-19, 21, 25, 27, 30 or 31, wherein the CKI comprises the amino acid sequence as set forth in SEQ ID NO: 2.

53. (Twice Amended) The method of claims 2, 5, 7-11, 13-25, 27, 30, [and] or 31, wherein the nucleic acid molecule comprises the nucleotide sequence as set forth in SEQ ID NO:1.

54. (Twice Amended) The method of claims 2, 5, 7-11, 13-25, 27, 30 [and] or 31 wherein the CKI comprises the consensus amino acid sequence as set forth in any one of SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38 or SEQ ID NO:39.

55. The transgenic plant of claim 36 wherein the CKI comprises the consensus amino acid sequence as set forth in any one of SEQ ID NO:34, SEQ ID NO:35, SEQ ID NO:36, SEQ ID NO:37, SEQ ID NO:38 or SEQ ID NO:39.

56. (Twice Amended) Harvestable parts or propagation material from the transgenic plant of claim 36, comprising the CKI which [interacts with] binds CDC2a that was introduced into the parent plant.

57. (Twice Amended) Cut flowers from the transgenic plant of claim 36, comprising the CKI which [interacts with] binds CDC2a that was introduced into the parent plant.